

Amendments to the Claims

1. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue, comprising a power supply [[3]] and a source of electromagnetic radiation [[34]] contained in the ~~body~~device, ~~said the~~ source made in the form of an incandescent lamp [[4]], a reflector [[6]] for concentrating ~~said the~~ radiation [[34]] onto the biological tissue ~~17~~ to be processed, a transparent dielectric ~~12~~ in the form of a waveguide connected to a cooling system and adapted to be in contact with the biological tissue [[17]] to be processed, as well as a spectral filter, *characterized by* the fact that the incandescent lamp [[4]] is connected to the power supply [[3]] through a modulator [[30]], which comprises a resistometer ~~38~~ of the incandescent filament [[37]] of the lamp [[4]] and a power regulator, and ~~the an~~ inner surface of the reflector [[6]] consists of a mirror surface [[7]] made with ~~the an~~ additional function of returning radiation [[34]] reflected from the biological tissue being processed back to the biological tissue [[17]].

2. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the spectral filter may be made in the form of an absorbent filter [[8]].

3. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the spectral filter may be made in the form of a fluorescent converter [[9]].

4. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the spectral filter may be made in the form of the reflective coating [[7]] of the reflector [[6]].

5. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the transparent dielectric [[12]] is located in a metal mount [[13]], fixed inside ~~body~~ the device [[1]], to one side of which a metal plate [[16]], connected to a cooling system [[33]], is tightly joined in contact with biological tissue [[17]].

6. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that a radiation-absorbent filter ~~[[8]]~~ is made in a form that together with the dielectric forms an optical wave guide with a sandwich structure consisting of a fluorescent converter ~~[[9]]~~, a coolant nonfreezing liquid ~~[[10]]~~, and an optical thermal insulator ~~[[11]]~~.

7. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the region of the inner surface of the reflector ~~[[6]]~~ located above the incandescent lamp ~~[[4]]~~ is shaped as a part of an ellipsoid or a sphere with a center of curvature in the center of ~~that a~~ a facet ~~[[36]]~~ of the waveguide which is nearest to the lamp ~~[[4]]~~, and the region of the inner surface of the reflector ~~[[6]]~~ located between the incandescent lamp ~~[[4]]~~ and ~~said~~ the facet is inclined to the latter at an obtuse angle.

8. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 7, *characterized by* the fact that the region of the inner surface of the reflector ~~[[6]]~~ located between the incandescent lamp ~~[[4]]~~ and the facet ~~[[36]]~~ of the waveguide ~~[[8]]~~ closest to it consists of ~~the~~ a lateral surface of a frustum of a cone or a right tetrahedral pyramid whose minor base is ~~said the~~ the facet, and ~~the a~~ dihedral angle between it and the lateral surface or the facet is between 115° and 120°.

9. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the reflector ~~[[6]]~~ and the transparent dielectric ~~[[12]]~~ are made of two halves with a common axis of rotation ~~[[39]]~~, the incandescent lamp ~~[[4]]~~ is located on the inner side of one of the halves of the reflector ~~[[6]]~~, and each of the halves of the transparent dielectric ~~[[12]]~~ may be made with the function of spectral filter and mounted on the corresponding half of the reflector ~~[[6]]~~ so as to permit placement of biological tissue ~~[[17]]~~ between the halves of the dielectric ~~[[12]]~~ with the halves of the reflector ~~[[6]]~~ in ~~the a~~ closed position.

10. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 9, *characterized by* the fact that the inner surface of

reflector [[6]] with its halves in the closed position constitutes an ellipsoid of revolution, ~~the~~ a coil of incandescent filament [[37]] of the lamp [[4]] is located at one of its foci [[47]] and an ~~the~~ axis of ~~which~~ the lamp is oriented along the major axis [[39]] of the ellipsoid, the halves of the transparent dielectric [[12]] are made in ~~the~~ a form of sphere segments [[44]] with bases parallel to the major axis of the ellipsoid and to the axis of rotation of the halves of the reflector [[6]], the sphere segments are mounted on the halves of the reflector so that their common center coincides with ~~the~~ a second focus [[43]] of the ellipsoid and with the biological tissue [[17]] located between the sphere segments.

11. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 9, *characterized by* the fact that the inner surface of the reflector [[6]] with its halves in the closed position constitutes the surface of an elliptical cylinder whose generatrix is parallel to the axis of rotation of the halves of the reflector [[6]], the coil of the incandescent filament [[37]] of the lamp [[4]] is located at the level of one focus of the ellipse, ~~the~~ an axis of ~~which~~ the lamp is aligned parallel to the generatrix of the elliptical cylinder, and the halves of transparent dielectric [[12]] are made in ~~the~~ a form of halves of cylinder [[48]] mounted on the halves of the reflector [[6]] so that the axes of ~~said~~ the cylinder coincide with the biological tissue [[17]] located between its halves and the orientation of the generatrix of cylinder [[48]] of the dielectric [[12]] ~~coincide[s]~~ coincides with the orientation of the axis of the coil of the incandescent filament [[37]].

12. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 9, *characterized by* the fact that the inner surface [[7]] of the reflector [[6]] with its halves in the closed position constitutes the surface of an elliptical cylinder whose generatrix is parallel to the axis of rotation [[39]] of the halves of the reflector [[6]], the coil of the incandescent filament [[37]] of the lamp [[4]] is located at the level of one focus [[42]] of the ellipse, ~~the~~ an axis of ~~which~~ the lamp is aligned parallel to the generatrix of the cylinder, and the halves of the transparent dielectric [[12]] are made in ~~the~~ a form of right prisms [[47]] with irregular polygons in

their bases, oriented with their lateral edges parallel to the axis of rotation [[39]] of the reflector [[6]], and the prisms [[47]] are mounted so that the focal axis [[39]] of the elliptical cylinder coincides with the biological tissue [[17]] located between the prisms [[47]].

13. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 4, *characterized by* the fact that the reflective surface [[7]] of the reflector [[6]] is made of material that selectively reflects the radiation [[34]] with a wavelength between about 600 and 2500 nm.

14. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the number of incandescent lamps [[4]] or the number of incandescent filaments [[37]] in one lamp [[4]] may be greater than one, and the incandescent filaments [[37]] may be flat.

15. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 9, *characterized by* the fact that a coolant nonfreezing liquid [[10]] additionally possesses the qualities of absorbing radiation or re-emitting radiation in a different part of the spectrum and is placed in a tube [[22]] connected to a pressurizing pump [[33]].

16. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that ~~the~~ a space within the reflector [[6]] is connected via an air line to an air compressor [[31]].

17. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that a cooling system [[33]] of the transparent dielectric [[12]] and the metal plate may contain Peltier elements [[14]].

18. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 3, *characterized by* the fact that a fluorescent converter [[9]] and an optical thermal insulator [[11]] forming the sandwich structure are

made of ruby or sapphire with titanium and optical glass, including quartz glass, respectively.

19. (Currently Amended) Device for therapeutic and cosmetological photo processing of biological tissue per claim 1, *characterized by* the fact that it is additionally fitted with a system for water or air cooling of the ~~body~~device.

20. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 3, *characterized by* the fact that ~~the~~ a bulb of the incandescent lamp [[4]] and/or a tube [[5]] surrounding the bulb [[4]] are additionally made with the function of a fluorescent converter.

21. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the incandescent filament [[37]] of the lamp [[4]] constitutes a flat emitter whose plane is parallel to ~~the~~ a plane of the biological tissue to be processed, and ~~the~~ a part of the inner surface of the reflector [[6]] located above the lamp is at a distance no less than $1.2d$ from ~~the~~ a waveguide facet [[36]] nearest to the lamp [[4]], where d is the outer diameter of ~~the lamp~~ a bulb of the incandescent lamp.

22. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that ~~the~~ a radiation-absorbing filter is made in the form of a sandwich structure with the function of the waveguide for radiation from the lamp [[4]] to biological tissue [[17]] and back and formed, in ~~the~~ a direction perpendicular to the surface of the biological tissue, of a frustum of a tetrahedral pyramid [[51]] made of a transparent material with an index of refraction no less than 1.76 whose major base faces the lamp [[4]], water at a temperature of 1°C to 10°C , and a cubical transparent dielectric in contact with the biological tissue and formed, in a direction parallel to the surface of the biological tissue, of the same frustum of a tetrahedral pyramid [[51]], water at a temperature of 1°C to 10°C , and ~~the~~ an inner surface [[52]] of ~~the~~ a reflectively coated tip.

23. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the transparent dielectric [[12]] is located in a metal mount equipped with a cooling system employing liquid at a temperature of -1°C to -18°C.

24. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that it is additionally equipped with a feedback system whose circuit incorporates a patient pain threshold sensor, an incandescent filament [[27]] of the lamp [[4]], and a power supply [[29]].

25. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that it is additionally equipped with a light interrupter controlled by the patient's pain threshold or by a pain sensor in the form of an iris sensor or a blood flow sensor.

26. (Currently Amended) Device for therapeutic and cosmetological photoprocessing of biological tissue per claim 1, *characterized by* the fact that the power supply [[29]] is equipped with a battery.

27. (Withdrawn) Method of therapeutic or cosmetological photoprocessing of skin, in which skin 17 is precooled, and then, while cooling continues, irradiated with light 34 from incandescent lamp 4, *characterized by* the fact that, to accomplish photodestruction of hair bulb 35, irradiation is performed in two phases, the first of which is intended to preheat dermis 17 to a temperature not exceeding the denaturing point and lasts 0.1-100 s in the 1100-2500 nm band with a peak in the 1300-1400 nm region and power density of 10-60 W/cm², and the second, which immediately follows the first, is intended to destroy hair bulb 35 and lasts 0.05-10 s in the 600-1200 nm band with a peak in the 600-1000 nm region and a power density of 80-800 W/cm².

28. (Withdrawn) Method of therapeutic or cosmetological photoprocessing of skin, in which skin 17 is precooled, and then, while cooling continues, irradiated with light 34 from incandescent lamp 4, *characterized by* the fact that, to accomplish photodestruction

of hair bulb 35, irradiation lasts 0.05-10 s in the 600-1200 nm band with a peak in the 600-1000 nm region and a power density of 80-800 W/cm².

29. (Withdrawn) Method of therapeutic or cosmetological photoprocessing of skin, in which skin 17 is precooled, and then, while cooling continues, irradiated with light 34 from incandescent lamp 4, *characterized by* the fact that, in order to accomplish photocoagulation of blood vessels or veins, irradiation is performed in two phases, the first of which is intended to preheat dermis 17 to a temperature not exceeding the denaturing point and lasts 0.1-100 s in the 500-2500 nm band with a peak in the 700-1500 nm region and power density of 1-50 W/cm², and the second, which immediately follows the first, is intended to coagulate the vessel or vein and lasts 0.05-1 s in the 400-1200 nm band with a peak in the 500-1100 nm region and a power density of 10-500 W/cm².

30. (Withdrawn) Method of therapeutic or cosmetological photoprocessing of skin, in which skin 17 is precooled, and then, while cooling continues, irradiated with light 34 from incandescent lamp 4, *characterized by* the fact that, in order to selectively damage collagen in dermis 17 to stimulate its regeneration or in order to selectively damage subcutaneous fat, irradiation is performed with light in the 600-2500 nm band with a duration of 0.1-1000 s and a power density of 0.1-500 W/cm².

31. (Withdrawn) Method of therapeutic or cosmetological photoprocessing of skin, in which skin 17 is precooled, and then, while cooling continues, irradiated with light 34 from incandescent lamp 4, *characterized by* the fact that transparent dielectric 12 and metal plate 16 of the device per claim 5 are brought into thermal contact with skin 17, and then, simultaneously with irradiation or in the intervals between irradiations, the device is moved along the surface of skin 17 so that a new unirradiated area of skin 17 first contacts metal plate 16 and then transparent waveguide 12.